Attorney Docket No.:61282.00007

## **ABSTRACT**

The invention relates to the ladder-type <u>and</u> blue light-emitting polymers with excellent <u>thermal</u> heat stability, which <u>are prepared by either polymerized either</u> grafting with blue luminescent monomers on the polymer backbones or <u>polymerization of adding</u> fluorine to styrene <u>derivatives containing fluorene</u>. The above blue light-emitting polymers have a high glass transition temperature and a 5%-weight-loss temperature above 400 °C. Accordingly these polymers can be used as blue luminescent materials in display <u>devices</u>, <u>devices</u> and <u>as luminescent cases for</u> home appliances or cellular phones.

Figures 1(a) and 1(b)

+cHz-CH+n +cHz-CH+n +cHz-CH+n

Figure 2: synthetic scheme of the ladder-type blue light-emitting polymer.

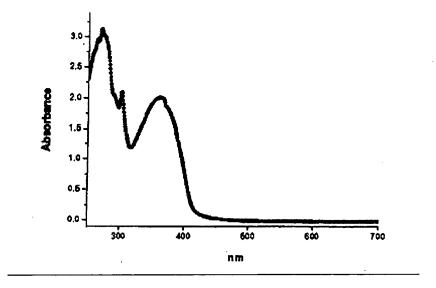


Figure 3: UV-VIS spectra

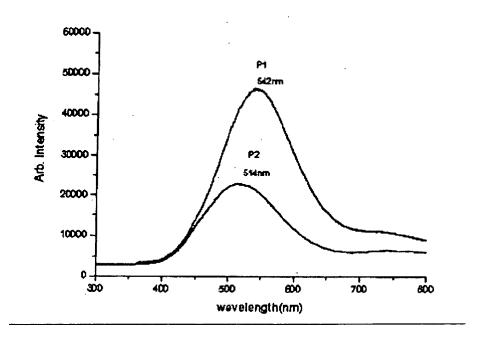


Figure 4: Photoluminescence spectra

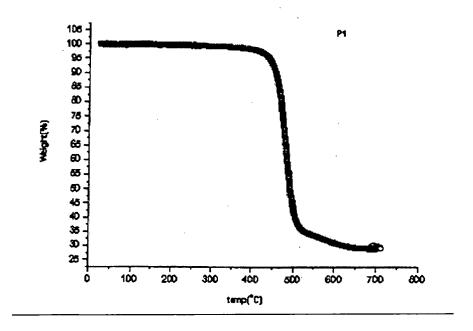


Figure 5: TGA of P1

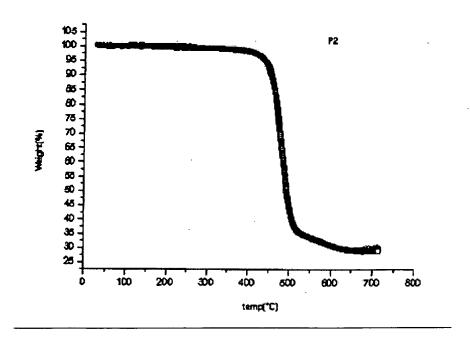


Figure 6: TGA of P2